

**CHIP FOR LARGE-SCALE USE OF INDUSTRIAL GENOMICS IN HEALTH
AND AGRICULTURE AND METHOD OF MAKING SAME**

This application is based on and claims priority from provisional application
Serial No. 60/247,325 filed November 10, 2000.

TECHNICAL FIELD

The present invention is directed to a product in the form of a chip for
functional genomics for DNA testing and which holds or carries DNA samples and the
method of making same. A preferred chip would have a hydrophobic field and hydrophilic
pads within the field to hold the DNA.

BACKGROUND OF THE INVENTION

Attempts to manufacture a chip of this type for functional genomics by plasma
dispositions and not requiring silation of the fields could produce the hydrophobic field but
proved to be unstable, non-repeatable and resulted in a low yielding and poor quality of
product.

With the present invention, it has been possible to produce a hydrophobic
fluorene polymer coated wafer with exceptional characteristics. The process of the present
invention eradicates the instability and variability of organic pads, eliminates the need to
alter the surface of previously produced chips via vapor silation methodology prior to
depositing matrix and analyte and increases the hydrophobicity delta between field areas
and silicon pad analysis areas.

DESCRIPTION OF THE DRAWINGS

Fig. 1 is a flow chart showing the steps of one process of making a chip of the
present invention.

Fig. 2 shows the parameters of the hydrophobic coat process.

Fig. 3 shows the parameters of etching the pad areas to the oxide wafer.